



# ***AirCred:***

***Emission Reduction Credits for Your Clean  
Cities AFVs at the Click of a Mouse***

**Spring, 2001 status and plans**

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**Center for Transportation Research  
Argonne National Laboratory**

**7th National Clean Cities Conference & Expo  
Philadelphia, PA  
15 May 2001**

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**Argonne National Laboratory  
Transportation Technology R&D Center**



# Why *AirCred*? Why Now?

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- Why not take emission reduction credits for the AFVs that private and municipal fleets have voluntarily acquired?
  - AFV emission reduction benefits are being “lost” for official air quality compliance purposes
  - Uses (and conservatively applies) an EPA-approved emission calculation procedure
  - Accessible at the most basic level of calculation (i.e., the individual small fleet)
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## ***AirCred's* Current Features**

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**Provides calculated daily credits through the year 2005 ozone season for these AFV categories (vehicles currently in service)**

- **electric light-duty vehicles**
- **dedicated and dual-fueled natural gas LDVs and LDTs,**
- **NG-fueled transit and school buses (replacing diesel buses), and also**
- **gives a credit for propane power**



## Features Recently Added

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- **medium- and heavy-duty propane vehicle credits (diesel replacement only--no credit available vs. gasoline)**
- **translator to enable each ozone non-attainment and (maintenance) area to select appropriate Clean City for applying baseline credit file**





## Features to be Added by Late Summer

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- **MY 2001 AFV acquisitions that apply LEV- and NLEV- baselines (not Tier 1) for conventional vehicles, *per agreement with EPA***
- **cold-weather CO credits**

***The model will be updated at least annually as new certification data for AFVs are obtained (or whenever MOBILE6 supplants MOBILE5b)***



## Additional Information

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Model status updates (posted approximately quarterly) appear on *AirCred* web page as accessed by hot link from AFDC, EPA/OTAQ, and Clean Cities web sites, or directly at ***<http://appserver.es.anl.gov/aircred.html>***

Interactive (on-line) version of model is currently unavailable due to file size/security problems but **DOWNLOADABLE INSTALLATION PACKAGE** (for PC hard drive) is always available and ***ALWAYS CURRENT.***

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# **CURRENT “LOOK & FEEL”** **of *AirCred***

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Argonne National Laboratory  
Transportation Technology R&D Center



Distribution Version 1.3  
Updated 19Jan2001

# AirCRED

for **ALTERNATIVE  
FUEL  
VEHICLES**



Web browser software for determining alternative fuel vehicle emissions credits and benefits.

[Click Here and Let's Get Started!](#)

Session Date/Time: 4/10/2001 9:45:13 AM

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**Intro Page--Common to On-line and Download Versions**

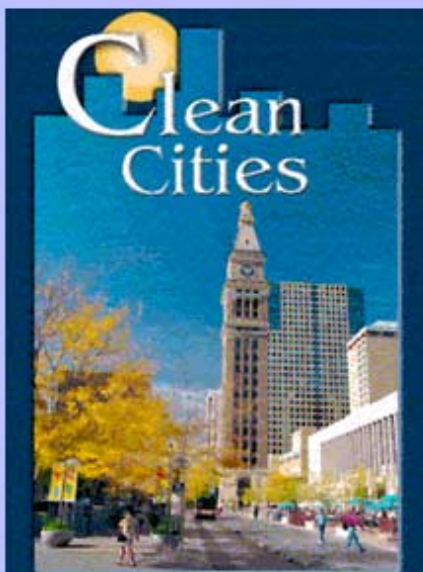




Hello! Welcome to AirCred!

Please click below on the location to assign VMEP credits for AFVs

*When operating the Web version of this application, use the "Close X" box to Exit or Quit.*



Alamo Area, TX  
Albuquerque, NM  
Ann Arbor, MI  
Atlanta, GA  
Austin, TX  
Baltimore, MD

 United States  
Environmental Protection Agency

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OK

**Clean City Selection Screen Logs Session Date/Time**



## Your Input Begins Here...

How many new AFVs of each of these types were delivered from July 1, 1998 thru June 30, 1999...  
..and how many AFVs were delivered from July 1, 1999 thru June 30, 2000...  
..and how many additional new AFVs will be delivered by June 30, 2001?

(Replace zeros below as applicable)

	1998-99	1999-00	2000-01		1998-99	1999-00	2000-01
Dedicated CNG light trucks, vans, and minivans in place of gasoline counterparts	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	Dedicated CNG automobiles	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Dual-fueled CNG light trucks, vans, and minivans in place of gasoline counterparts	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	Dual-fueled CNG automobiles	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
LPG (propane)-fueled light trucks, vans, and minivans in place of gasoline counterparts	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	Natural gas school buses replacing gasoline buses	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Natural gas-fueled full-size transit buses	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	Natural gas school buses replacing diesel buses	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Electric light-duty trucks	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	Electric automobiles	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

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OK

## 2000-01 Model Year Credits to be Operationalized Soon





# Daily VMT

And how many miles ON AVERAGE is EACH of these AFVs driven each day?

(Replace zeros below as applicable)

Dedicated CNG light trucks, vans, and minivans in place of gasoline counterparts	<input type="text" value="0"/>	Dedicated CNG automobiles	<input type="text" value="0"/>
Dual-fueled CNG light trucks, vans, and minivans in place of gasoline counterparts	<input type="text" value="0"/>	Dual-fueled CNG automobiles	<input type="text" value="0"/>
LPG (propane)-fueled light trucks, vans, and minivans in place of gasoline counterparts	<input type="text" value="0"/>	Natural gas school buses replacing gasoline buses	<input type="text" value="0"/>
Natural gas-fueled full-size transit buses	<input type="text" value="0"/>	Natural gas school buses replacing diesel buses	<input type="text" value="0"/>
Electric light-duty trucks	<input type="text" value="0"/>	Electric automobiles	<input type="text" value="0"/>

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OK



Weekly Days of Operation

How many days per week, on average, is/was EACH of these AFVs operated between May 1 and September 15?

(Replace zeros below as applicable)

Dedicated CNG light trucks, vans, and minivans in place of gasoline counterparts	<input type="text" value="0"/>	Dedicated CNG automobiles	<input type="text" value="0"/>
Dual-fueled CNG light trucks, vans, and minivans in place of gasoline counterparts	<input type="text" value="0"/>	Dual-fueled CNG automobiles	<input type="text" value="0"/>
LPG (propane)-fueled light trucks, vans, and minivans in place of gasoline counterparts	<input type="text" value="0"/>	Natural gas school buses replacing gasoline buses	<input type="text" value="0"/>
Natural gas-fueled full-size transit buses	<input type="text" value="0"/>	Natural gas school buses replacing diesel buses	<input type="text" value="0"/>
Electric light-duty trucks	<input type="text" value="0"/>	Electric automobiles	<input type="text" value="0"/>

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**Percent Operation as AFV**

And what percentage (0-100) of the time does/did EACH AFV type operate on non-petroleum fuel?

**(Replace zeros below, as applicable)**

Dedicated CNG light trucks, vans, and minivans in place of gasoline counterparts	<input type="text" value="0"/>	Dedicated CNG automobiles	<input type="text" value="0"/>
Dual-fueled CNG light trucks, vans, and minivans in place of gasoline counterparts	<input type="text" value="0"/>	Dual-fueled CNG automobiles	<input type="text" value="0"/>
LPG (propane)-fueled light trucks, vans, and minivans in place of gasoline counterparts	<input type="text" value="0"/>	Natural gas school buses replacing gasoline buses	<input type="text" value="0"/>
Natural gas-fueled full-size transit buses	<input type="text" value="0"/>	Natural gas school buses replacing diesel buses	<input type="text" value="0"/>
Electric light-duty trucks	<input type="text" value="0"/>	Electric automobiles	<input type="text" value="0"/>

Compute Last Summer's Total DAILY Credits Now      Compute DAILY Cold Start Credits

**Go Back**   **Print this page**   **Compute Credits**   **Compute Credits**

Current Date/Time: 4/10/2001 10:20:33 AM

**Select Daily (24-hour) or Cold Start Credits from This Screen**



## Wrap-up

for Philadelphia, PA

Your 2000 Credit for  
DAILY Non-Methane  
Hydrocarbons (NMHC)  
Reduced was:

Your 2000 Credit for  
DAILY Carbon Monoxide  
(CO) Reduced was:

Your 2000 Credit for  
DAILY Oxides of  
Nitrogen (NOx)  
Reduced was:

\*Attributable (pounds) to  
the following vehicle types  
in the amounts shown

View Estimated  
Year 2001 DAILY  
Credits

View Credits

Print this page

Quit

Ded. Natural Gas Light Trucks	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>
Dual-fuel Natural Gas Light Trucks	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>
Ded. CNG Autos	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>
Dual-fuel CNG Autos	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>
Transit buses	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>
School buses	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>
LPG Lt.-Duty Trucks	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>
Electric Light-Duty Trucks	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>
Electric Autos	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>

Tons =  Tons =  Tons =

Pounds =  Pounds =  Pounds =

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Year 2001 Results

for Philadelphia, PA

The DAILY Credits for this fleet in the Year 2001 Ozone Season Will be :

	Tons	Pounds
NMHC	0.000	0.00
CO	0.000	0.00
NOx	0.000	0.00

View  
Estimated  
2002 Credits

Click to return to "Percent Operation as AFV" screen, then click to display 1999 daily (24-hour) credits and/or year 2000 cold start credits

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**Wrap-up**

for Philadelphia, PA

	Your 2000 Credit for DAILY Non-Methane Hydrocarbons (NMHC) Reduced was:	Your 2000 Credit for DAILY Carbon Monoxide (CO) Reduced was:	Your 2000 Credit for DAILY Oxides of Nitrogen (NOx) Reduced was:
Ded. Natural Gas Light Trucks	97.35	342.54	10.26
Dual-fuel Natural Gas Light Trucks	0.00	0.00	0.00
Ded. CNG Autos	0.00	0.00	0.00
Dual-fuel CNG Autos	0.00	0.00	0.00
Transit buses			726.15
School buses	0.00	0.00	0.00
LPG Lt.-Duty Trucks	0.00	0.00	0.00
Electric Light- Duty Trucks	2.10	38.77	5.19
Electric Autos	0.00	0.00	0.00

\*Attributable (pounds) to the following vehicle types in the amounts shown

View Estimated Year 2001 DAILY Credits

**View Credits**

**Print this page**

Tons = 0.050    Tons = 0.191    Tons = 0.371

**Go Back**    99.45    Pounds    381.31    Pounds    741.60    Pounds    **Quit**

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**Fleet Credits Change Over Time, Especially for LDVs & LDTs**



**Year 2003 Results**

**for Philadelphia, PA**

The DAILY Credits for this fleet in the Year 2003 Ozone Season Will be:

	Tons	Pounds
NMHC	0.053	105.96
CO	0.303	606.49
NOx	0.379	751.90

[View Estimated 2004 Credits](#)

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**Even Assuming Parallel Deterioration, AFVs Pollute Less  
Due to Lower Usage Rate in the Aggregate**





Year 2005 Results

for Philadelphia, PA

The DAILY Credits for this fleet in the Year 2005 Ozone Season Will be:

	Tons	Pounds
NMHC	0.058	115.70
CO	0.349	698.91
NOx	0.383	765.72

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**MOBILE6 Deterioration Rates May Not Indicate  
the Trend to be so Pronounced**



**Model status updates  
(posted approximately  
quarterly) appear on  
*AirCred* web page as  
accessed from AFDC,  
EPA/OTAQ, and Clean  
Cities web sites, or  
directly at**

***<http://appserver.es.anl.gov/aircred.html>***